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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/040,751	01/08/2002	Othon K. Rediniotis	T1	3571

7590 09/11/2002  
James W. Hiney, Esq.  
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Blacksburg, VA 24060

EXAMINER

ELLINGTON, ALANDRA

ART UNIT	PAPER NUMBER
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2855

DATE MAILED: 09/11/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/040,751

Applicant(s)

REDINIOTIS ET AL.

Examiner

Alandra N Ellington

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☒ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

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### **DETAILED ACTION**

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

#### ***Oath/Declaration***

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

It does not identify the foreign application for patent or inventor's certificate on which priority is claimed pursuant to 37 CFR 1.55, and any foreign application having a filing date before that of the application on which priority is claimed, by specifying the application number, country, day, month and year of its filing.

The clause regarding "willful false statements ..." required by 37 CFR 1.68 has been omitted.

#### ***Priority***

Acknowledgment is made of applicant's claim for foreign priority based on an application filed in United States on 1/12/2001. It is noted, however, that applicant has not filed a certified copy of the 60/260,955 application as required by 35 U.S.C. 119(b).

Receipt is acknowledged of papers filed under 35 U.S.C. 119 (a)-(d) based on an application filed in United States on 1/12/2001. Applicant has not complied with the requirements of 37 CFR 1.63(c), since the oath, declaration or application data sheet does not acknowledge the filing of any foreign application. A new oath, declaration or application data

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sheet is required in the body of which the present application should be identified by application number and filing date.

***Information Disclosure Statement***

The information disclosure statement filed 1/8/2002 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

The information disclosure statement is objected to because it does not list the name of the inventor(s).

***Specification***

The disclosure is objected to because of the following informalities: On page 3, there are prior art references mentioned, but the references were not listed on the information disclosure statement and there U. S. Patent Number was not given. The examiner requests that the applicant provide the office with a legible copy of the references. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-12 and 18-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Claim 1 recites “a small probe tip” and “a quick response and high performance” which makes the statement unclear and ambiguous. What is considered to be “small”? Also, what does the applicant consider “a quick response and high performance”?

Claim 10 recites “corresponding number of pressure transducers” which makes the statement unclear and ambiguous. What are the pressure transducers corresponding to?

Claim 12 recites “of miniature size” which makes the statement unclear and ambiguous. What is considered “miniature”?

Claim 18 recites “calculating the steady probe calculation” which makes the statement unclear and ambiguous. How can the process calculate a calculation? Also, there was not previous process and/or mention of the steady state calculation.

Claim 19 recites “only calculating the unsteady probe calculation” which makes the statement unclear and ambiguous. How can this process only calculate the unsteady probe calculation when it depends on a claim that already states other calculations? How can the process calculate a calculation?

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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Claims 13-14 are rejected under 35 U.S.C. 102(b) as being anticipated by U. S. Patent No. 5,117,687 to Gerardi. Gerardi discloses a pressure probe as claimed (see Figs. 1-11 and respective portions of the specification).

Referring to claim 13, Gerardi discloses an omni-directional three component flow velocity measurement pressure probe 50 with fast dynamic response, said probe comprising

A spherical tip 2,

A plurality of sensors 54A,54B,56A,56B,58A,58B mounted on said tip by flexible skin technology (col. 5 lines 5-19,51-61),

Said sensors being equidistant from one another (col. 5 lines 14-19).

Referring to claim 14, Gerardi discloses a probe as in claim 13 wherein said sensors fabricated on thin flexible strips 12 on the surface of said spherical tip 2 with electrical leads 19 connected to transducers 4 through the body of said tip 2 (col. 3 lines 60-68, col. 5 lines 2-22).

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 18-20 are rejected under 35 U.S.C. 102(a) as being anticipated by the emitted prior art. The emitted prior art discloses a process as claimed (see respective portions of the specification).

Referring to claim 18, the emitted prior art discloses the process of calculating velocity magnitude, the flow angles and the static pressure of a given flow, said process comprising:

- a) calculating the geometric location for each port (pg. 3 lines 2-4)
- b) calculating the steady probe calculation (pg. 2 lines 10-13,18-20)

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Referring to claim 19, the emitted prior art discloses the process of claim 18 only calculating the unsteady probe calculation (pg. 3 lines 5-10).

Referring to claim 20, the emitted prior art discloses the process of claim 19 and including additional calculations (pg. 3 lines 4-5).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-12 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over the emitted prior art in view of Amazeen et al and Gerardi.

The emitted prior art discloses a high-performance, fast-response, multi-sensor pressure probe (pg. 2 lines 10-13) comprising a probe tip (pg. 3 lines 2-4), plurality of holes (pg. 2 lines 10, pg. 3 lines 2-4), plurality of pressure transducers (pg. 3 lines 2-4), plurality of sensors (pg. 1 lines 5-7), five sensors (pg. 1 lines 5-7), five transducers (pg. 3 lines 2-4), seven sensors (pg. 1 lines 5-7), seven transducers (pg. 3 lines 2-4), time lag (pg. 3 lines 5-7), and hemispherical probe tip (pg. 1 lines 7-8). However, the emitted prior art does not specifically teach self-contained computer, MEMS probe unit, MEMS sensor array, bossed diaphragm structures, and a cross pattern (cl 11-cl 12, cl 15, cl 17). Also, the emitted prior art does not teach an omni-directional probe and spherical probe tip (cl 4-cl 5).

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Amazeen et al teaches a self-contained computer 46, MEMS probe unit (Fig. 1), MEMS sensor array 10, bossed diaphragm structures (col. 5 lines 15-19{14,16}), and a cross pattern (col. 5 lines 29-34) for the purpose of providing a greatly improved triaxial tactile sensor (cl 11-cl 12, cl 15, cl 17).

Gerardi teaches an omni-directional component flow velocity measurement pressure probe 50 comprising spherical probe tip 2 for the purpose of detecting the nature of fluid flow (cl 4-cl 5).

Since the emitted prior art, Amazeen et al, and Gerardi are all from the same field of endeavor, the purpose disclosed by Amazeen et al and Gerardi would have been recognized in the pertinent art of Amazeen et al and Gerardi.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the emitted prior art with the teachings of Amazeen et al and Gerardi as noted above to include self-contained computer, MEMS probe unit, MEMS sensor array, bossed diaphragm structures, cross pattern, omni-directional probe, and spherical probe tip for the purpose of detecting the nature of fluid flow.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. Maiden et al. U. S. Patent No. 3,699,811 discloses flow velocity and direction instrument.
2. Nakaya et al. U. S. Patent No. 5,423,209 discloses truncated pyramid-shape mutli-hole pitot probe.



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3. Wilson. U. S. Patent No. 4,833,917 discloses three-component velocity probe.

4. Honda. U. S. Patent No. 5,852,236 discloses fluid measuring probe.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alandra N. Ellington whose telephone number is (703)305-4449.


The examiner can normally be reached on Monday - Friday, 6:30am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benjamin Fuller can be reached on (703)308-0079. The fax phone numbers for the organization where this application or proceeding is assigned are (703)306-7725 for regular communications and (703)305-3839 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-1782.

Alandra Ellington  
A.U. 2855

ANE  
September 5, 2002

  
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